



E1650
JACC March 27, 2012
Volume 59, Issue 13



Prevention

NON TRADITIONAL RISK FACTORS AND MORTALITY: DO THEY ADD INFORMATION BEYOND TRADITIONAL RISK FACTORS?

ACC Moderated Poster Contributions
McCormick Place South, Hall A
Sunday, March 25, 2012, 9:30 a.m.-10:30 a.m.

Session Title: Prevention: Clinical: Novel Cardiovascular Disease Risk Factors: What's New?

Abstract Category: 9. Prevention: Clinical

Presentation Number: 1182-201

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Background: Cardiovascular risk determination has been traditionally supported by scores such as Framingham (FRAM). However, there are subjects in which this prediction may be poor.

Objective: To determine the incremental predictive power of mortality of two non traditional risk factors (RF): aerobic capacity and high sensitivity C-reactive protein (hsCRP) beyond traditional RF in a primary prevention population.

Methods: Prospective study in 3,217 subjects in Santiago, Chile (37% women, mean age = 53±13) without known CHD/CVD, followed in a preventive cardiology unit between 2002 and 2010. All subjects were surveyed about traditional risk factors. We measured: BMI, waist, systolic and diastolic blood pressure (BP), fasting lipids, blood sugar, and 2 non-traditional RF: aerobic capacity determined by METS (through a symptom-limited stress test) and hsCRP. FRAM was calculated for every subject. We assessed all-cause mortality in August 2011, with a median follow up of 6 ± 2 years. We constructed 4 models for mortality risk prediction: FRAM, FRAM+METS, FRAM+logCRP, FRAM+METS+logCRP. For these, ROC curves and C-index were estimated using mortality against non mortality as outcome.

Results: During the follow up there were 50 deaths. The survivors were significantly younger and had lower BP, waist and blood sugar ($p<0.01$ for all). The deceased subjects had a significantly lower aerobic capacity (8.5 versus 11.6 METS, $p<0.0001$) and a significantly higher hsCRP (4.5 versus 1.9mg/L, $p=0.04$). FRAM among the deceased was 11% and among the survivors 7%. FRAM did not predict mortality [C=0.55 (95% IC 0.47-0.64)]. Among the other 3 models, FRAM+METS [C=0.78 (0.69-0.85)] showed the best predictive power without overlapping confidence intervals with FRAM model [C=0.78 (0.69-0.85)]. The other models predicted mortality but not significantly beyond FRAM: FRAM+METS+logPCR [C= 0.83 (0.60-0.93)]; FRAM + logPCR [C= 0.73 (0.51-0.90)].

Conclusion: This study showed that the determination of two non-traditional RF: aerobic capacity and hsCRP, added incremental predictive power of mortality beyond the traditional RF considered in FRAM.